CLAIMS

1. A method of operating a network switch which is an edge switch in an Ethernet communication network having a multiplicity of sub-nets, is arranged to receive and forward packets which include media access control address data and network address data, and is in communication with a core router, comprising:

performing a look-up in respect of a packet which is received by the edge switch from a source local to the edge switch and on a first sub-net and has a destination on a second sub-net;

forwarding the packet directly towards its destination in response to the network address data in the packet, without the packet traversing the core router, when the destination is a local destination; and

forwarding the packet from the edge switch to the core router, whenever the destination is not local to the edge switch;

said edge switch maintaining look-up tables of media access control addresses and network addresses for local sources and destinations on both the first and second sub-nets.

2. A method according to claim 1 wherein the network switch forwards the packet to the core router in response to media access control data in the packet.

3. A method according to claim 1 wherein the network switch provides a default route to the core router for network destination addresses which are not local to the network switch.

4. A network switch having ports for the reception and forwarding of Ethernet packets which include media access control address data and network address data and organised:

said edge switch is organized:

(a) to perform a media access control address look-up in respect of a first packet received by the switch;

(b) to bridge the packet if a source and a destination of the packet are on the same subnet and local to the edge switch;

(c) to perform a network destination address look-up in respect of a second packet which is received by the edge switch from a source local to the edge switch and on a first sub-net and has a destination on a second sub-net;

(d) to forward said second packet directly towards its destination in response to network address data in said second packet when the destination thereof is a local destination; and

(e) to forward said second packet from the edge switch by a default route, in response to media access control address data in said second packet, if the destination thereof is not local to the edge switch,

said edge switch having look-up tables of media access control addresses and network addresses for local sources and destinations on both the first and second sub-nets.

5. A combination of a core router and an edge switch for the reception and forwarding of Ethernet packets, wherein said edge switch is organised:

(a) to perform a media access control address look-up in respect of a first packet received by the switch;

(b) to bridge said first packet when the source and a destination of the packet are on the same subnet and local to the network switch;

(c) to perform a network destination address look-up in respect of a second packet which is received by the network switch from a source local to the edge switch and on a first sub-net and has a destination on a second sub-net;

(d) to forward said second packet directly towards its destination in response to network address data in said second packet when the destination thereof is a local destination; and

(e) to forward said second packet to said core router from the network switch, in response to media access control address data in said second packet, if the destination thereof is not local to the edge switch,

said network switch having look-up tables of media access control addresses and network addresses for local sources and destinations on both the first and second sub-nets.